IN THE CLAIMS:

Amend the claims to read as follows:

1. (currently amended) An ultrasonic probe ~~including~~ comprising:

a transducer located at a distal end of the probe, the transducer being moved within the chamber to scan an image region outside the probe;~~, comprising:~~

a fluid chamber enclosing the transducer within the probe;

an acoustic fluid which is highly transmissive of ultrasound located in the fluid chamber; and

a thin-walled volume compensation balloon formed of a high performance thermoplastic material, and located completely within the probe in fluid communication with the fluid chamber, the volume compensation balloon containing a small fraction of the fluid of the fluid chamber at room temperature.

2. (currently amended) An ultrasonic probe ~~including~~ comprising:

a transducer located at a distal end of the probe, the transducer being moved within the chamber to scan an image region outside the probe;~~, comprising:~~

a fluid chamber enclosing the transducer within the probe;

an acoustic fluid which is highly transmissive of ultrasound located in the fluid chamber; and

a thin-walled volume compensation balloon located completely within the probe and formed of a high performance thermoplastic material in fluid communication with the fluid chamber, the volume compensation balloon containing a small

fraction of the fluid of the fluid chamber at room temperature,

wherein the thin-walled balloon is formed of a non elastomeric thermoplastic material.

3. (original) The ultrasonic probe of Claim 2, wherein the thin-walled balloon exhibits a low permeability to the acoustic fluid.

4. (original) The ultrasonic probe of Claim 3, wherein the thin-walled balloon exhibits a high compliance over the designed temperature range of transport and use.

5. (original) The ultrasonic probe of Claim 4, wherein the thin-walled balloon exhibit a high thermal stability and is operated at or below the glass transition temperature for the thermoplastic material.

6. (original) The ultrasonic probe of Claim 1, wherein the acoustic fluid comprises a silicone oil.

7. (currently amended) An ultrasonic probe ~~including~~ comprising:

a transducer located at a distal end of the probe, the transducer being moved within the chamber to scan an image region outside the probe;~~, comprising:~~

a fluid chamber enclosing the transducer within the probe;

an acoustic fluid which is highly transmissive of ultrasound located in the fluid chamber; and

a thin-walled volume compensation balloon located completely within the probe and formed of a high performance thermoplastic material in fluid communication with the fluid chamber, the volume compensation balloon containing a small

fraction of the fluid of the fluid chamber at room temperature,

wherein the non elastomeric thermoplastic material comprises a PET polymer.

8. (original) The ultrasonic probe of Claim 7, wherein the thin-walled balloon exhibits a high burst strength.

9. (currently amended) An ultrasonic probe ~~including~~ comprising:

a transducer located at a distal end of the probe, the transducer being moved within the chamber to scan an image region outside the probe;~~, comprising:~~

a fluid chamber enclosing the transducer within the probe;

an acoustic fluid which is highly transmissive of ultrasound located in the fluid chamber; and

a thin-walled volume compensation balloon located completely within the probe and formed of a high performance thermoplastic material in fluid communication with the fluid chamber, the volume compensation balloon containing a small fraction of the fluid of the fluid chamber at room temperature,

wherein the thin-walled balloon exhibits a high compliance of less than 2 psi per ml; a low permeation rate to acoustic fluid of less than 1.0; a high burst strength in excess of 10 atmospheres; and a thermal stability which does not significantly decrease compliance at low temperatures of operation.

10. (currently amended) An ultrasonic probe for three dimensional imaging comprising:

a probe body enclosing a fluid chamber;

an array transducer movably mounted within the fluid chamber;

a drive mechanism coupled to the array transducer to move the array transducer during scanning;

an acoustic fluid located within the fluid chamber; and

a volume compensation balloon located completely within the probe and in fluidic communication with the fluid chamber, the balloon being formed of a substantially non elastic material and being partially expanded at room temperature.

11. (original) The ultrasonic probe of Claim 10, wherein the balloon is approximately half filled with acoustic fluid at room temperature.

12. (original) The ultrasonic probe of Claim 11, wherein the balloon contains less than 20% of the fluid of the fluid chamber at room temperature.

13. (original) The ultrasonic probe of Claim 10, wherein the balloon is formed of a high performance thermoplastic.

14. (original) The ultrasonic probe of Claim 13, wherein the balloon is formed of a PET polymer.

15. (original) The ultrasonic probe of Claim 10, wherein the compliance of the wall of the balloon is substantially constant over a design temperature range of transport and use.

16. (original) The ultrasonic probe of Claim 15, wherein the design temperature range of use extends below 0°C.

17. (original) The ultrasonic probe of Claim 10, wherein the wall thickness of the balloon is less than 1.0 mil, and

wherein the wall of the balloon exhibits a low permeability to the acoustic fluid.

18. (original) The ultrasonic probe of Claim 10, wherein the probe body comprises a shaft designed for intracavity use of the probe.